

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims

1. (Original) An apparatus for projecting fringes onto a surface of an object, said apparatus comprising:
 - a) two sources of radiation having a spectral distribution;
 - b) a collimator in optical communication with said two sources, said collimator generating two substantially collimated beams of broadband radiation;
 - c) a diffractive grating in optical communication with said collimator; and
 - d) a lens in optical communication with said diffractive grating, wherein said lens generates two images of radiation having a spatial distribution of spectral regions.
2. (Original) The apparatus of claim 1 wherein each of said spectral regions of one of said sources is separated from a respective spectral region of the other of said sources by a distance proportional to the respective wavelength of said spectral regions.
3. (Original) The apparatus of claim 2 wherein said distance is linearly proportional to said wavelength of said spectral regions.
4. (Original) The apparatus of claim 2 wherein said distance comprises a midpoint equidistant from each of two respective spectral regions and wherein said midpoint is fixed.
5. (Original) The apparatus of claim 1 wherein said two sources of radiation are coherent with respect to one another.
6. (Original) The apparatus of claim 1 wherein said two sources of radiation have a spectral distribution that is narrowband.
7. (Original) The apparatus of claim 1 further comprising a detector for determining three-dimensional position information of a point on said surface of said object.

8. (Original) The apparatus of claim 1 wherein the two sources of radiation are generated from a single source of radiation.
9. (Original) The apparatus of claim 1 further comprising a translator coupled to said diffractive grating, said translator shifting the relative phase of one of said spectral regions with respect to the other of said spectral regions.

Claims 10-18. (Canceled)

19. (Currently amended) A method for projecting fringes onto a surface of an object, said method comprising the steps of:
 - a) providing two sources of radiation separated by a distance, each of said sources having a spectral distribution and being coherent with respect to the other of said sources;
 - b) illuminating ~~said~~ a point on said surface of said object with said radiation from each of said sources;
 - c) moving one of said sources relative to the other of said sources; and
 - d) detecting radiation scattered by said point on said surface of said object.
20. (Original) The method of claim 19 further comprising the step of changing the phase of a spectral component in said spectral distribution from one of said sources relative to the phase of a respective spectral component in said spectral distribution from the other of said sources as measured at said point on said surface of said object.